Cisco Server Provisioner

Introduction

Resource management is more efficient when data centers standardize on an automated server provisioner. An enterprise-standard provisioner must be flexible enough to handle inevitable changes such as growth, market shifts, mergers and acquisitions that bring new technologies, and advances such as cloud deployments. Cisco® Server Provisioner, part of the Cisco Intelligent Automation software family, automates and simplifies server provisioning and will support dynamic, heterogeneous environments today and in the future.

Product Overview

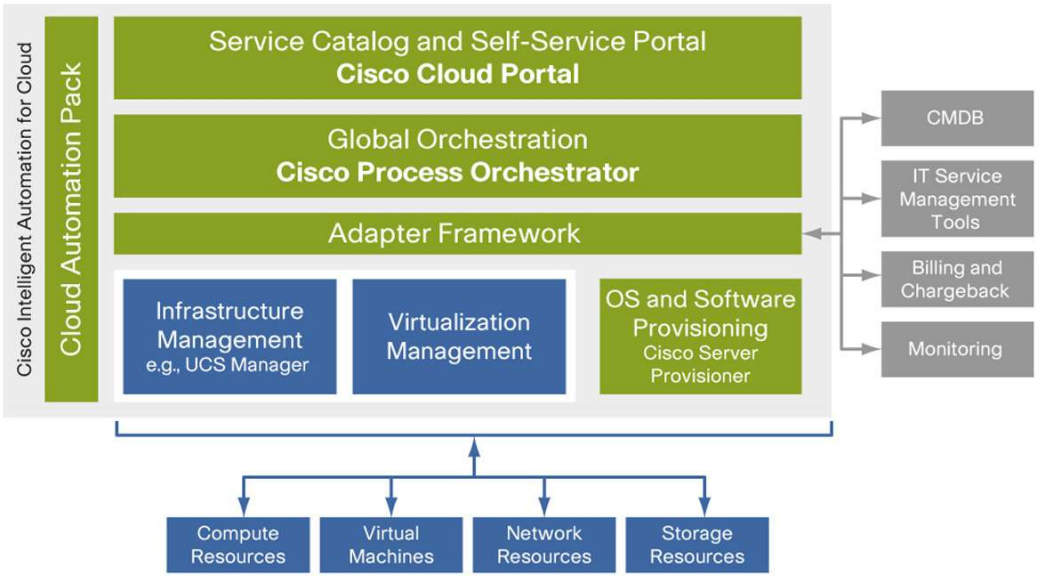
Automated System Provisioning, Recovery, and Cloning

Cisco Server Provisioner is software that automatically installs operating environments for physical and virtual servers and blades, a process known as bare metal provisioning. The provisioner fits within the broader Cisco Intelligent Automation for Cloud offering, as shown in Figure 1.

Manual system provisioning is financially and technically unfeasible as data centers grow and change. Automation frees staff from repetitive tasks to focus on innovation and advanced implementations.

Cisco Server Provisioner streamlines data centers because it lets staff manage, back up, and repurpose servers and blades quickly and consistently. The provisioner reduces deployment times and operating costs and promotes scalability, while increasing hardware utilization and the predictability of server and blade behavior.

Figure 1. A Contextual View of Automated Server Provisioning within the Datacenter



Rapid Deployment of New Systems

Organizations can provision servers and blades at any time, and they can be ready in less than 30 minutes. Cisco Tidal Server Provisioner can provision or repurpose several or thousands of servers or blades quickly. The administrator can set the provisioner to install a range of popular operating systems including Linux and Windows, and install the ESX and ESXi hypervisors.

Repurposing Unused Systems

Organizations can avoid having idle or unused servers and blades because the provisioner can reinstall operating systems and hypervisors within minutes.

Capturing and Cloning a System State

The provisioner can capture a fully-configured state for either system recovery or cloning. In the event of an emergency, Cisco Tidal Server Provisioner can return the server or blade to a previous, known “good” state by using the previously captured image of the disk. This image can also be used to clone, or replicate the same configurations to multiple identical servers and blades, if the system administration needs multiple copies of a single configuration.

Consistently Provision Heterogeneous Environments

Cisco Server Provisioner recognizes the main OS and hypervisor architecture families, including their unique characteristics such as installers, control files, methods, and paths. Because most large environments have multivendor configurations, the provisioner supports most servers and blades architectures in those mixed environments. Therefore, Cisco Server Provisioner can be standardized upon for both uniform and diverse environments.

Support Cisco UCS

The provisioner also supports Cisco Unified Computing System™ (UCS™) installations and is integrated with the Cisco Intelligent Automation for Cloud and Cisco Intelligent Automation for Compute software stacks. Therefore, it can be operated through the Cisco Process Orchestrator within the stack and take advantage of the capabilities of the orchestrator, or it can be operated directly through its own web-based user interface independently of other solutions to quickly build out data farms of UCS blades and servers.

Features and Benefits

Cisco Server Provisioner is commercially supported and works “out of the box.” Once installed and running, it can prepare servers and blades for deployment in 5 to 20 minutes. Some of the major capabilities of the provisioner are as follows.

Multi-Environment Provisioning

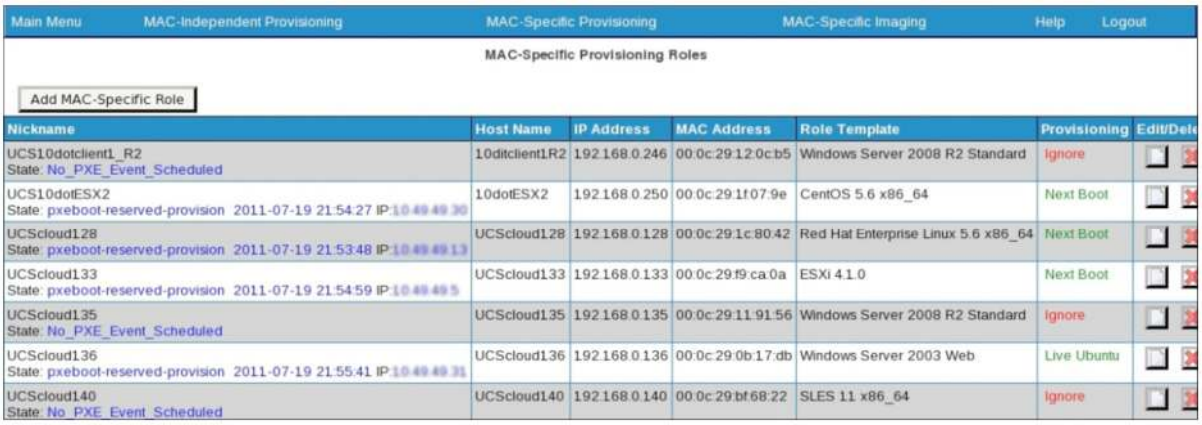
The provisioner recognizes these popular OS and hypervisor architecture families and their unique characteristics so it can install them correctly each time:

- Red Hat: RHEL, CentOS, and Fedora
- Microsoft: Windows Server 2008/R2, Windows 7, Windows Server 2003, and Windows XP
- VMware: ESXi and ESX
- Debian-based: Debian and Ubuntu
- SUSE-based: Novell SLES and OpenSUSE

Push Provisioning

MAC address-specific push provisioning can be used in situations where users rarely touch the computer systems and rely on a provisioning dashboard to remotely provision servers and blades. The system administrator selects which operating systems and hypervisors to install using a list of systems and network and other configuration parameters. Users choose operating systems and hypervisors to quickly provision multiple servers and blades, and enter additional parameters to the provisioning role template if customizations need to be made for an individual system (Figure 2).

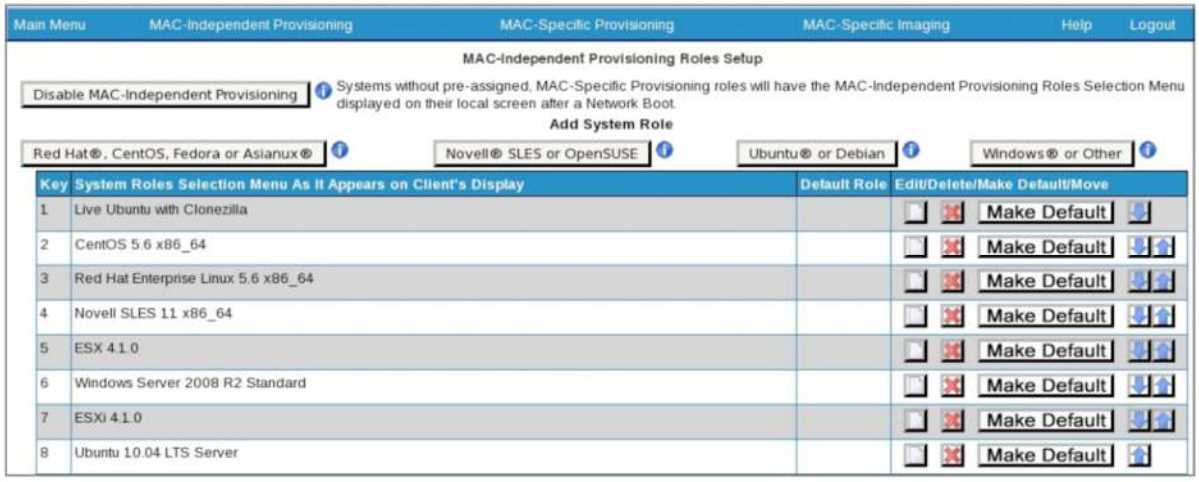
Figure 2. Push Provisioning



Pull Provisioning

MAC address-independent, locally-initiated pull provisioning can be used in instances where users can access each individual system to assign an operating system or hypervisor to install. No server-side setup is needed for each client, and pull provisioning can be used for desktop and server sandbox environments. Pull provisioning is set up in the provisioner GUI, which then lets users select from the client screen (Figure 3).

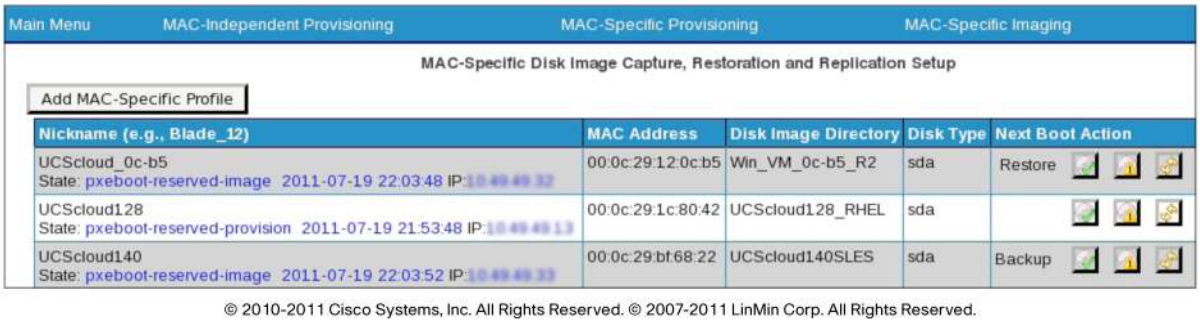
Figure 3. Pull Provisioning



Disk Imaging: Backup, Restoration and Cloning

The provisioner lets you capture the contents of local disks and store them on the network. These can be used to restore a system to a prior state (rollback) or clone additional systems that have the same hardware characteristics. Disk image capture, restoration, and replication are easily defined and executed by the provisioner, as shown in Figure 4.

Figure 4. Disk Imaging



Flexible Interface

In addition to a standard web-browser based GUI, the provisioner API can integrate provisioner functions into hosting automation software such as control panels and other IT automation software.

Cloud Automation

The provisioner is integrated with the Cisco Intelligent Automation for Cloud software stack as shown in Figure 1. End users can remotely request provisioning through the Cisco Cloud Portal catalog site and can use Cisco Process Orchestrator to manage provisioning of the resources.

Compute Automation

Cisco Server Provisioner can be combined with Cisco Process Orchestrator to help coordinate provisioning through build-and-run automated workflows for provisioning. Automation packs and adapters are available for a variety of Cisco UCS, Cisco network services, VMware, and other systems.

Major Requirements

Cisco Server Provisioner can be deployed directly by your organization. However, Cisco Services are available and are especially recommended when deploying this product along with the full suite of Cisco Intelligent Automation for Cloud software. This provisioner itself can be installed on operating systems that include Red Hat Enterprise Linux and CentOS, and can be installed either on a physical system or in a virtual machine.

For More Information

For more information about Cisco Server Provisioner and other Cisco Intelligent Automation for Cloud services or products, please visit cisco.com/go/ctsp You can also follow Cisco Intelligent Automation on Twitter at http://www.twitter.com/CiscoIA.

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